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CENTRAL INTELLIGENCE AGENCY

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1. The low production figure of the Soviet metallurgical industry is not due entirely to technical problems. The main reasons are found in the human element and are the result of the Soviet system itself , basically the lack of financial interest because of low wages compared to buying power for personnel. The whole industry is a bureaucratic system from top to bottom, accompanied by a lack of personal initiative. Leadership means nothing; there is only responsibility without authority. Each man works under the rule that "the guilty one must be found and he will be found"; hence no one individual will make a decision. There is an important psychological point in the fact that despite the Communist idea of "people's and state property", it has not become a part of the individual mind. The artificially created methods of production such as "shock campaigns" and "stakhanovite movements" are not sound. Couple the above with general terror and production chaos is complete.

2. [redacted] some specific examples of the above. The engineer and foreman of each shift were in a position to decide when to change from a high carbon content steel to a lower one, which often occurs in production. Instead of taking the responsibility, they would ask permission of the workshop which in turn carried the request on up to the director's office. This consumed much time and meanwhile the carbon burned out and the entire smelting was wasted, since it could not be used for even the softest type of steel. A display of personal initiative in technological processes was dangerous. The authorities preferred to allow industry to work below capacity rather than permit the engineer-technician to gain any independence in thinking.

25X1

3. The main thought behind the "shock campaigns" and "socialistic competitions" was to speed up production. Ironically, this caused the most harm in the metallurgical industry where time is often needed. All pay and controls were based on time; the faster a worker completed the process assigned to him the more reward he was given. Everyone therefore tried to do his job in as short a time as possible. Workers, for example, attempted to speed up charging the furnaces so much that they neglected to heat them properly. So-called "bears" or cold meltings (low carbon content) were a real plague in the smelting shop. It was very important that a furnace be shut down occasionally for repairs. To do this a meeting of foremen, engineers,

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bosses, Party members, union leaders, et cetera would have to be called together. The result of such delays was damaged regenerators.

4. In 1937-1938, during the purge of specialists at the Ilyich Plant in Mariupol, the production of the Martin open hearths, the rolling mill and the workshops dropped 50%. It is interesting to note that these people were not engaged in production processes but that their infrequent visits to production units gave confidence to the engineers and technicians with the result that the work was more or less satisfactory.

5. [redacted] the effect of general terror on the workers [redacted] the fear of failure to meet everyday personal problems such as food, special meetings, social and political work, et cetera. About two hours before the Soviet worker is to get off work he begins to forget his work and starts worrying about and discussing whether or not he can still buy bread at the food store. [redacted] begin to worry about my daily report to the boss of the shop [redacted] Denouncement was common among workers for the slightest reason. 25X1 25X1 25X1

6. Low productivity can also be explained by the following:

   a. Lack of cooperation between shops.

   b. Low quality scrap, particularly the so-called "agricultural scrap."

   c. Poor transportation methods inside the plants.

   d. The tendency to increase the amount of scrap in each charge.

   e. The high mechanization of plants with very low qualified personnel. (In 1941 a 650-ton oscillating Martin furnace with an automatic high mechanism was installed in the Azovsteel Plant. In it was an adjustment which regulated the heating of the crown of the furnace. Because no one knew how to work the regulator the crown was damaged daily and in 20 or 25 days ruined completely.)

7. To raise production the so-called "speedy alloyings" were created in order to show good results. Such meltings were always successful in Martin shops where much attention was given to the undertaking. But it still had an artificial character. At the Ilyich Plant the procedure was as follows in the second Martin shop: A meeting of engineers and technicians first took place. Each received a certain problem to work out such as organizing delivery of needed materials, selecting a proper charge, et cetera. A steel worker would be selected to handle the heating; usually a young, untrained worker who would not be as careful as an older, trained worker. The furnace was charged under the direction of the foreman, the charge being carefully selected, compounded and weighed. (Usually the charge was never given such attention) The process was carefully timed. Lubricants were plentifully supplied. (This, too, was not common.) All necessary materials were on hand and in large amounts, such as lime, [illegible] calcium, dolomite admixture and deoxidizing agents (FeSi, Al.). Trenches would be prepared. Several specialists would watch the furnace and thermal-technicians, technologists, mechanics, electricians would be on hand. (Usually one had to search the plant for them.) A melting under this "speedy alloying" system always succeeded, being made in 6.5 to 7.5 hours (in a 50 to 65 ton furnace). The results were always good as compared to the regular work of the shop. Usually the main trouble was the very slow delivery of the charge which often led to cold meltings. The Ilyich Plant, for example, had no mixer and there were many delays in smooth pig-iron.

8. At the Ilyich Plant, on a 50-to 75-ton furnace one steel-welder, one first assistant and three or four helpers were used. At the Azovsteel Plant there were 350-to 650-ton furnaces which required two additional helpers. There were between eight and 10 workers at the trenches per shift.

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9. From numerous studies [redacted] up until 1937 the statistical data concerning the various common types of steel were correct. Up until that time every plant had in its entrance hall a so-called "red and black table" on which all data concerning the fulfillment of production plans were posted about each furnace. The information was usually correct. From these figures data concerning total plant production were made up into the periodical "Za Industrializatiyu." After 1937 nothing at all was printed. Data concerning any special types of steel production were never printed.

10. Much time was needed in constructing new furnaces. The construction of Azovsteel's furnace No. 6 (650 tons) took between 15 and 16 months. Delays caused by disorders (for many reasons) of the base of the furnace were common.

11. The shop of the Ilyich Plant where [redacted] never lacked for iron containing alloys. The plant management sent to the shop only orders for such types of steels as contained colored metal. Of course if they knew that the plant did not have a certain kind of colored metal they did not request an order for steel containing it. 25X1

12. An exact record of melting and casting of steel was made by a specialized technician in order to maintain quality control. Additional control was obtained by taking samples during the melting process and having them analyzed by a so-called "express" laboratory, where a quick analysis was made. At the same time a chemical analysis was made by the chemical laboratory. The completed product was tested for structure, et cetera in the metallurgical laboratory. Tests for tension, compression and hardness were made by the mechanical laboratory.

13. While Soviet industry is rich in industrialized machines, there is also a great waste in such machines. A great number of imported industrial machines were stored in warehouses and yards awaiting installation in plants. They were not properly taken care of. Machines were idle because of lack of spare parts. (Foreign manufacturers did not ship spare parts with the units in many cases.) Further waste of industrial machinery was brought about because the workers placed on the machines were unqualified.

14. [redacted] did not read of any new research accomplishments in metallurgy that were not already known to the countries abroad. About 30% of the time of the Ilyich research laboratory was spent on problems obtained from foreign papers and periodicals. Much attention was given to the [redacted] magazine "Stahl und Eisen" (Steel and Iron) and to a [redacted] publication, [redacted] but which was directed by the [redacted] scientist Fritz Korber. Fifty percent of the laboratory time was spent on problems of expediting the regular production of the plant. About 20% of the time was spent in trying to determine methods of lowering the cost of alloys. Numerous scientists from Leningrad and other large cities visited the plant to try out new metallurgical methods such as: 25X1 25X1 25X1 25X1

a. Melting with high phosphorous iron ores.

b. The use of copper instead of chromium for anti-corrosion

c. The use of sands from the Rostov district rather than the Moscow district.

d. Attempts to change the cupola of the Martin furnace by making it in separate sections, thus preventing the complete shut down of the furnace, since a burned out section could be quickly replaced

e. To speed up the supply of heat to the furnace and shorten the melting time by the "Dnepropetrovsk School of Dobrohorov" method.

25X1